



Wireless E-911 Funding

Steve Marzolf, E-911 Coordinator
Virginia Division of Public Safety Communications
www.va911.org



Local Issue

- ◆ Provision of E-911 is a local issue.
- ◆ 112 localities provide wireline E-911.
- ◆ 24 localities do not have wireline E-911.
- ◆ Wireless Board and DPSC provide funding and technical support when asked.
- ◆ Timing, priority, and effort must come from the locality.

Current Legislation



- ◆ Establishes a \$0.75 surcharge on wireless telephone bills.
- ◆ Establishes a Wireless E-911 Services Board of 14 members.
- ◆ Allowed PSAPs and CMRS Providers to seek "reasonable" and "direct" costs for the provision of wireless E-911 Phase I and II.
- ◆ Requires a "true-up" process.
- ◆ Gave responsibility for wireline funding to Wireless Board.

Current Legislation (cont.)



- ◆ Established a subcommittee to review CMRS submissions (FIOA exemption).
- ◆ Created the Division of Public Safety Communications.
- ◆ Capped the wireline surcharge at \$3.00.
- ◆ Requires yearly reporting to General Assembly.
- ◆ Established deadlines for the provision of wireline E-911 and wireless 911.

Current Legislation (cont.)



- ◆ *Code of Virginia* requires PSAP be responsible for wireless 9-1-1 by:
 - July 1, 2002 if the locality had E-911 as of July 1, 2000, or;
 - July 1, 2003 for all other localities.
- ◆ Calls are still going to the State Police in 54 localities. Of these:
 - 25 have until July 1, 2003 to deploy; and
 - 15 have sought and extension of time from the Wireless E-911 Services Board.

Current Legislation (cont.)



- ◆ Localities meeting two requirements may be excluded from requirement to implement E-911 by July 1, 2003:
 - 50% or more of the locality's geographic area is unable to receive wireless telephone service; and
 - No taxes are imposed for E-911 services pursuant to §58-3813.1.

Board Membership



- ◆ N. Jerry Simonoff
Chairman
- ◆ Jim McDonnell
Vice-Chairman
PSAP Rep.
- ◆ David Vo Moll
Treasurer
- ◆ Tom Hanson
PSAP Rep.
- ◆ Terry Hall
EMS Rep.
- ◆ Melvin Breeden
Local Financial Officer Rep.
- ◆ Chief Henry Stanley
Police Chief Rep.
- ◆ Julian Taliaferro
Fire Chief Rep.
- ◆ Sheriff Ron Oakes
Sheriff Rep.
- ◆ Captain John Furlough
State Police Rep.
- ◆ Ralph Jones
DEM Rep.
- ◆ Robert Woltz
LEC Rep.
- ◆ Edward Coglio
PCS Rep.
- ◆ Bob Layman
Cellular Rep.

Overall Accomplishments



- ◆ Provided the following funding:

FY	PSAPs	Localities Served	PSAP Funding	Wireless Provider Funding
2000	28	23	\$4,316,115	\$396,144
2001	40	50	\$7,047,639	\$1,862,736
2002	83	92	\$14,303,163	\$2,375,186
2003	71	82	\$11,795,463	\$11,164,557

- ◆ Have received 20 new FY2003 requests.
- ◆ Have received 72 requests for FY2004.

Wireline E-911



- ◆ Board to provide funding and assistance to localities not wireline E-911 as on July 1, 2000.
- ◆ 37 localities meet this requirement.
- ◆ \$9.8 million was appropriated in FY2003.
- ◆ Funding is only available for FY2003.

Wireline Funding



- | | |
|--|---|
| Allowable Cost <ul style="list-style-type: none"> ◆ Mapping ◆ Addressing ◆ Street signage ◆ Customer premise equipment (CPE) ◆ Initial network costs | Disallowed Costs <ul style="list-style-type: none"> ◆ Recurring E-911 costs ◆ Voice logging equipment ◆ Computer-aided dispatch ◆ Buildings and furnishings ◆ Radio systems |
|--|---|

Ability to Pay



- ◆ Board looked at formulas based on:
 - Composite Index
 - Surcharge Based
- ◆ Board selected the composite index because it was an existing method for determining ability to pay.
- ◆ One problem with the index was that some local shares were too high.

Capped Composite

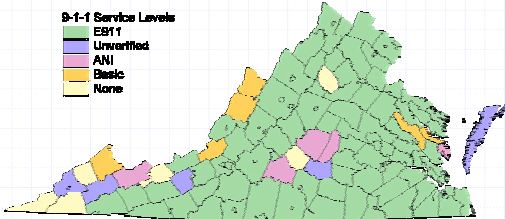


- ◆ To address the shortcomings of the composite index method, the Board developed the "Capped Composite" method.
- ◆ "Capped Composite" method limits the local share of funding to that which can be generated with a \$1.50 surcharge for a period of 24 months.

Wireline E-911 Status



9-1-1 Service Levels
 E911
 Unverified
 ANI
 Basic
 None



Wireless 9-1-1 Problem



- ◆ Wireline enhanced 9-1-1 provides the address of the calling party.
- ◆ Wireless 9-1-1 provides no information on the caller.
- ◆ The percentage of wireless calls is increasing (over 50% of 9-1-1 in urban areas).

FCC Requirements



- ◆ Complete all calls to 9-1-1 regardless of billing.
- ◆ PSAP must make a request to the CMRS provider.
- ◆ PSAP must be able to use the data.
- ◆ A cost recovery mechanism must be in place for the PSAP.

Wireless Enhanced 9-1-1



- ◆ Phase 0
 - Locality taking the call typically on a dedicated seven-digit line.
- ◆ Phase I
 - Call is routed through the 9-1-1 system based on the cell site/sector receiving the call and provides the cell site information and call back number.
- ◆ Phase II
 - Same routing as Phase I, but latitude/longitude is provided within acceptable error rate.

Phase II - Technology



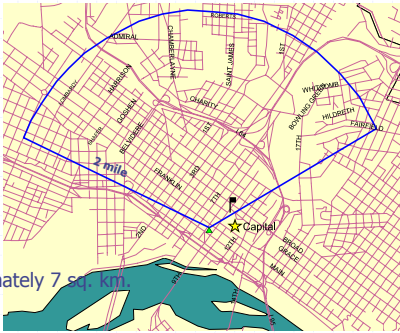
- ◆ Handset based solution
 - GPS
- ◆ Network based solution
 - Time Distance of Arrival
 - Angle of Arrival
 - Signal Pattern Matching

Phase II - Accuracy



- ◆ Handset Based Solution
 - 50 meters / 67% of the calls
 - 150 meters / 95% of the calls
- ◆ Network Based Solution
 - 100 meters / 67% of the calls
 - 300 meters / 95% of the calls

Phase I Accuracy



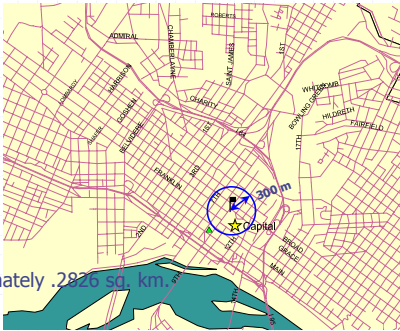
Approximately 7 sq. km.

Phase II – Handset 67%



Approximately .00785 sq. km.

Phase II – Network 95%



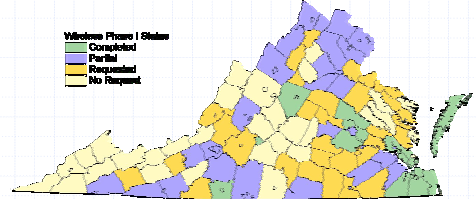
Approximately .2826 sq. km.

Wireless Phase I Status



Wireless Phase I Status

- Completed
- Partial
- Requested
- No Request



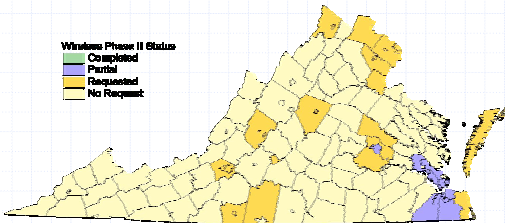
- ◆ Eighteen localities deployed with all providers.
- ◆ Sixty-two have implemented with at least one.
- ◆ Monthly status reports on website.

Wireless Phase II Status



Wireless Phase II Status

- Completed
- Partial
- Requested
- No Request



Wireless Funding



- ◆ No funding available for Phase 0 and must have wireline E-911.
- ◆ No secondary PSAPs.
- ◆ All "reasonable and direct" costs are funding by the Board.
- ◆ Must commit to and select an implementation date before being eligible for funding.

Wireless Funding (cont.)



- ◆ Dedicated equipment
 - 100% funded by Board.
 - Includes CPE wireless upgrades, call counting software, trunking costs, mapping systems, etc.
- ◆ Shared equipment/personnel
 - Proportionally funded by the Board based on the percentage of wireless E-911 calls to total calls in the PSAP (10.42% minimum and \$30,000 minimum for net personnel funding).

Wireless Funding (cont.)



- ◆ Mapping data including photography, centerline and addressing data.
- ◆ Fund PSAP personnel for the mapping function to the wireless percentage (same as other PSAP personnel).
- ◆ Fund addressing equipment (GPS receiver) to the wireless percentage.

Project Management



- ◆ \$32K maximum cost recovery for project management for each Phase.
 - 40 hours per month for 8 months @ 100/hour
- ◆ Full cost recovery for regional project management efforts.
 - Consultant selected by Region
 - Invoiced through DPSC
 - Five contiguous localities as minimum to form a region

Funding Submissions



- ◆ Submissions by Oct. 1 proceeding the fiscal year (soft deadline).
- ◆ Board will approve by March 1.
- ◆ Distribution is made beginning July 1.
- ◆ Funding provided in quarterly installments (exceptions can be made if needed).

True-up Process



- ◆ Conducted between July and September after the end of the fiscal year (required by *Code*).
- ◆ PSAP must provide actual costs for wireless and call load data.
- ◆ Actual costs may differ from estimated so long as actual are still allowable.
- ◆ Locality may be required to return funding or may be eligible for additional funding.

VA911.ORG



- ◆ What's New
- ◆ Wireless
- ◆ Wireline
- ◆ Contacts
- ◆ Resources
- ◆ About
- ◆ Banner